

REMARKS

Reconsideration and further examination of the application, as amended, are requested. All objections and rejections are respectfully traversed.

Election/Restriction Requirement

Applicants have canceled claims 13-20 without prejudice in response to the Election/Restriction requirement.

Objection to the Specification

At p. 3, the Office Action objected to p. 12 of the Specification. Applicants have amended p. 12 of the Specification in order to correct the minor, typographical error that was detected by the Examiner. Accordingly, the objection to the Specification should be withdrawn.

Applicants have also amended page 11 of the Specification to provide the Patent No. of a referenced patent application, which was not available at the time the present application was filed.

Claim Rejections

At p. 3, the Office Action rejected claims 2 and 7-12 under 35 U.S.C. §112, second paragraph. Specifically, the Office Action objected to the phrases “metacharacters are a wild card metacharacter” and “followed immediately by a repeat last character zero” as being indefinite. Applicants respectfully traverse the rejection.

Claim 2 in annotated format reads as follows:

“The method of claim 1 wherein the predetermined sequence of regular expression metacharacters are (1) a wildcard metacharacter followed immediately by (2) a repeat last character zero, one or more times metacharacter.”

That is, claim 2 recites that the predetermined sequence of regular expression metacharacters includes at least two metacharacters, namely:

1. a wildcard metacharacter that is followed immediately by
2. a repeat last character zero, one or more times metacharacter.

As set forth in the Specification as originally filed, a suitable wildcard metacharacter is the “*” symbol, and a suitable repeat last character zero, one or more times metacharacter is the “.” symbol. *See* Specification at p. 16, lines 14-15, and p. 4, lines 3-

4. Applicants thus submit that the language of claim 2, as originally filed, satisfies §112, second paragraph, and therefore the rejection of claim 2 should be withdrawn.

At p. 4, the Office Action rejected claim 7 on the grounds that the phrase “mismatch pattern includes all don’t care values” is indefinite. Applicants respectfully traverse the rejection.

Claim 7 reads as follows:

“The method of claim 6 wherein
the CAM is a ternary content addressable memory (TCAM) that supports
don’t care values, and
the mismatch pattern includes all don’t care values.”

Claim 4 (from which claim 7 depends), moreover, recites that the entries of a given section of the pattern matching engine are loaded with a mismatch pattern. Applicants direct the Examiner’s attention to row 902s of Fig. 9, which illustrates an exemplary mismatch pattern. *See* Specification at p. 20, line 25 (“Row 902s corresponds to a

mismatch for the first sub-expression”). Row 902s, moreover, includes all “-” symbols, which correspond to the don’t care values. *See* Specification at p. 17, line 5 (“a don’t care value . . . is represented by a hyphen”). Accordingly, Applicants request that the §112, second paragraph rejection of claim 7 be withdrawn. *See* MPEP §2173.02 (stating that claim language must be analyzed in light of the contents of the Specification, among other things).

At p. 4, the Office Action rejected claims 1-5 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,785,677 to Fritchman (“Fritchman”). Applicants respectfully traverse the rejection.

Claim 1, in relevant part, recites as follows:

“A method for programming a pattern matching engine having a plurality of information storage entries with one or more regular expressions, each regular expression including a plurality of characters and having a corresponding action to be applied to matching strings, the method comprising the steps of:”

“loading one or more entries of the pattern matching engine with a plurality of the sequential characters from at least one sub-expression”.

Applicants submit that Fritchman fails to disclose, among other things, the “loading” element recited above.

With Fritchman, a client (10) submits an SQL query to a server (13), which then searches a database (15) for any records matching the SQL query. *See* Fritchman, Fig. 1 and Col. 9, lines 14-26. Because the client’s SQL query is not expected to be repeated (e.g., either by it or by some other client), there is no need, and hence no disclosure by Fritchman, of loading any entries of a pattern matching engine with the characters of a sub-expression, as is recited in claim 1. Instead, with Fritchman, the server (13) searches

the database (15) for the SQL query presented by the client (10) and, upon completing its search, discards the SQL query and waits for a new one from the same or a different client. There is no disclosure by Fritchman of loading any entries of a pattern matching engine for repeated searching for the same regular expressions.

The Office Action, at p. 5, cites to Fritchman's Fig. 2 and block 21 as purportedly disclosing Applicants' claimed "loading". Applicants respectfully disagree.

Block 21 of Fritchman illustrates his preprocessing phase. *See Right Side of Fig. 2 ("PREPROCESS PATTERN STRING")*. As noted at Col. 9, lines 31-33, Fritchman's preprocessing stage involves determining the prefix, suffix and interior segment values of the pattern string. There is no mention, let alone a disclosure, by Fritchman of any loading of characters from sub-expressions into the entries of a pattern matching engine. Indeed, the word "loading" nowhere appears in Fritchman. This is not surprising, given that Fritchman does not expect the client computer's pattern string to be used more than once. Because Fritchman fails to disclose the recited "loading" element, the rejection of claim 1 based on Fritchman should be withdrawn. *See MPEP §2131* (To support a 102 rejection, the cited reference must disclose each and every element as set forth in the claim). The rejection of claims 2-5, which depend from claim 1, should also be withdrawn for these same reasons, among others.

At p. 7, the Office Action rejected claims 6 and 7 under 35 U.S.C. §103 as being obvious based on Fritchman in view of U.S. Patent No. 6,741,591 to Kaldani et al. ("Kaldani"). Applicants respectfully traverse the rejection of claims 6 and 7.

Kaldani and the present invention were commonly owned at the time the present invention was made, thereby disqualifying Kaldani as a reference.

Section 103(c) of the patent statute provides that:

Subject matter developed by another person, which qualifies as prior art only under subsections (e), (f) or (g) of section 102 of this title, shall not preclude patentability under this section [i.e., under Section 103] where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or **subject to an obligation of assignment to the same person**.

The present application was filed on February 13, 2002. Kaldani issued on May 25, 2004, based on an application filed November 3, 1999. In other words, Kaldani issued after the filing date of the present application. Accordingly, Kaldani, at best, only qualifies as prior art against the present application under section 102(e).

Furthermore, Kaldani and the present invention were, at the time the present invention was made, owned by the same person or subject to an obligation of assignment to the same person. In particular, as set forth in an Assignment, dated February 11, 2002, and recorded in the United States Patent and Trademark Office at Reel 012592 and Frame 0409, the present application was assigned from the inventors to Cisco Technology, Inc. of San Jose, CA. Furthermore, as set forth on its face, Kaldani was similarly assigned to Cisco Technology, Inc. of San Jose, CA. Thus, Kaldani and the present invention were commonly owned at the time the present invention was made, thereby satisfying §103(c), and disqualifying Kaldani as prior art against the present invention.

As the obviousness rejections of claims 6 and 7 are based upon Kaldani, and Kaldani is not a proper reference, Applicants submit that the rejection of these claims should be withdrawn. See MPEP §706.02(l)(2).

Allowable Claims

The Office Action, at p. 8, indicated that claims 8-12 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

New Claims

Applicants have amended the application by adding new dependent claims 21-25. No new matter is being introduced. New claim 21 corresponds to originally filed claim 8, new claim 22 corresponds to originally filed claims 6, 7 and 9, new claim 23 corresponds to originally filed claim 10, new claim 24 corresponds to originally filed claim 11, and new claim 25 corresponds to originally filed claim 12, but with different dependences than the originally filed claims.

Applicants submit that the application, as amended, is in condition for allowance and early favorable action is requested.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,


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